

Scientific Note

NEW RECORDS OF SIXTEEN CADDISFLY SPECIES (TRICHOPTERA) FROM THE KURIL ARCHIPELAGO, THE ASIAN FAR EAST

The Kuril Archipelago forms the eastern boundary of the Okhotsk Sea and a bridge between Hokkaido (43°23' N, 145°49' E), the northern most island of Japan, and the Russian peninsula of Kamchatka (50°52' N, 156°32' E). The island chain consists of 34 islands, ranging in size from 0.15 to 3200 km². All of the Kuril islands are volcanic in origin, ranging in age from Upper Cretaceous to late Pleistocene. The islands are often fog-bound in summer, and snow-covered much of the rest of the year. Each island's fauna is shaped by its own geological history, adjacent channel depths and currents, as well as the proximity to mainland biota.

Ueno (Ueno, M. 1933. Bull. Biogeogr. Soc. Jap., 4: 171–212) and Miyadi (Miyadi, D. 1933. Jap. J. Zool., 5: 171–207) first reported on Kuril Island caddisfly fauna. After 1950 Russian scientists added considerably to knowledge of the Kuril Island caddis fauna, and by 1997, 101 species were known (Levanidova, I. M. 1979. Syst. & Ecol. Fish. Far East Cont. Reservoirs.; Levanidova, I. M. 1982. Amph. Insec. Mountain Regions Far East USSR; Vshivkova, T. S., Nozaki, T., Kuranishi, R., & T. I. Arefina. 1994. Bull. Biogeogr. Soc. Jap., 49: 129–142; Arefina, T. I., Ivanov, V. D., & I. M. Levanidova. 1996. Far East. Entomol., 34: 1–12; Arefina T. 1997. Key to the Insec. of Rus. Far East. 5: 41–46 & 82–89). Recently (1994–1997) on annual international biological survey expeditions by American, Russian and Japanese scientists, 16 additional species, including one family (Psychomyiidae) and four (*Orthotrichia*, *Wormaldia*, *Lype*, *Nothopsyche*) new generic records, were collected. These records bring the present total number to 117 species.

Specimens of the newly recorded species were collected by V. A. Teslenko (VT), N. Minakawa (NM), P. B. H. Oberg (PO), M. Ohara (MO), R. I. Gara (RG), A. Lelej (AL) and R. L. Crawford (RC) and examined by T. I. Arefina (TA), T. Nozaki (TN), I. M. Levanidova (IL), T. Ito (TI), V. D. Ivanov (VI) and M. Uenishi (MU). The specimens are deposited at the Institute of Biology and Soil Sciences, Russian Academy of Sciences, Far Eastern Branch, Vladivostok, Russia and at the School of Fisheries, University of Washington, Seattle, Washington, U.S.A.

Records.—(1) *Orthotrichia* sp. (Hydroptilidae): ZELIONYI: 2 females, Kamenskoye Lake, 43°30' N, 146°06' E, 6 Aug 1994, col. VT, det. VI. (2) *Wormaldia* sp. (Philopotamidae): KUNASHIR: 1 female, unnamed stream adjacent to the hot spring, 44°00' N, 145°41' E, 3 Aug 1995, col. VT, det. VI. (3) *Kisaura tsudai* Botosaneanu, 1970 (Philopotamidae): KUNASHIR: 10 males, 18 females, unnamed stream adjacent to the hot spring, 44°00' N, 145°41' E, 27 Jul 1997, col. NM, det. TA. (4) *Hydropsyche albicephala* Tanida, 1986 (Hydropsychidae): KUNASHIR: 2 males, 2 females, unnamed stream adjacent to the hot spring, 44°00' N, 145°41' E, 27 Jul 1997, col. NM, det. TA. (5) *Cheumatopsyche infascia* Martynov, 1934 (Hydropsychidae): KUNASHIR: 1 male, unnamed stream adjacent to the hot spring, 44°00' N, 145°41' E, 3 Aug 1995, col. VT, det. VI; 88

males, 126 females, same locality, 27 Jul 1997, col. NM, det. TA. (6) *Lype excisa* Mey, 1991 (Psychomyiidae): ITURUP: 1 female, Zapravochnyi Waterfall, 45°20' N, 147°60' E, 19 Aug 1996, col. VT, det. TA; KUNASHIR: 1 male, unnamed stream adjacent to the hot spring, 44°00' N, 145°41' E, 3 Aug 1995, col. NM and PO, det. TN; 1 male, 2 females, same locality, 27 Jul 1997, col. NM, det. TA. (7) *Oligotricha lapponica* Hagen, 1864 (Phryganeidae): PARAMUSHIR: 1 female, unnamed pond in Utyosnaya River Valley, 50°38' N, 156.07' E, 1 Aug 1996, col. RC, det. TN; 1 female, unnamed pond near Savushkina River, 50°44' N, 156°08' E, 4 Aug 1997, col. VT, det. TA. (8) *Brachycentrus americanus* Banks, 1899 (Brachycentridae): KUNASHIR: 4 larvae, Ilyushina River, 44°09' N, 145°56' E, 1 Aug, 1994, col. NM and RG, det. TI. (9) *Hydatophylax soldatovi* (Martynov, 1914) (Limnephilidae): KETOI: 1 female, Stochneya River, 47°18' N, 152°30' E, 19 Aug 1995, col. NM, det. TN; 1 male, 1 pharate female, 1 larva, same locality and date, col. VT, det. TA; 1 pharate male, unnamed waterfall near Storozheva Cape, 47°22' N, 152°28' E, 17 Aug 1995, col. VT, det. TA; SIMUSHIR: 4 males, unnamed stream that drains Srednaya Bay, 46°59' N, 152°01' E, 21 Aug 1995, col. VT, det. IL; 3 larvae, same locality, 22 Aug 1995, col. VT, det. TA; 1 female, same locality and date, col. NM and PO, det. TN; 2 pharate males, 2 pharate females, 4 larvae, unnamed stream that drains Malaya Bay, 47°05' N, 152°08' E, 18 Aug 1995, col. VT, det. TA; URUP: 1 male, Lopukhovaya River, 45°48' N, 149°54' E, 29 Aug 1995, col. VT, det. TA; 1 male, Vesyolaya River, 46°05' N, 150°08' E, 6 Aug 1995, col. NM and PO, det. TN; 1 male, unnamed tributary of Ukromnaya River, 45°36' N, 149°31' E, 20 Aug 1996, col. NM, det. TN; 1 pharate female, 2 larvae, same locality and date, col. VT, det. IL; ITURUP: 1 larva, Nezhnyi Creek, 45°17' N, 147°52' E, 3 Aug 1995, col. VT, det. TA; 4 males, 1 female, unnamed stream that drains Konservnaya Bay, 45°20' N, 147°60' E, 18 Aug 1996, col. NM, det. TN; KUNASHIR: 1 male, unnamed stream that drains Lake Lagunnoye, 44°03' N; 145°44' E, 1 Sep 1995, col. NM, det. TN. (10) *Limnephilus femoratus* Zetterstedt, 1840 (Limnephilidae): PARAMUSHIR: 1 male, Utyosnaya River, 50°38' N, 156°08' E, 1 Aug 1996, col. MO, det. TN; ITURUP: 2 males, Natasha Lake, 44°46' N, 147°11' E, 22 Aug 1996, col. VT, det. TA; ITURUP: 3 males, unnamed stream that drains Konservnaya Bay, 45°20' N, 147°60' E, 31 Jul 1997, col. NM, det. TA. (11) *L. incisus* Curtis, 1834 (Limnephilidae): PARAMUSHIR: 1 female, unnamed pond near Vasilyeva Cape, 50°01' N, 155°24' E, 3 Aug 1996, col. MO, det. TN; 1 female, same locality, 16 Aug 1997, col. AL, det. TA; 4 males, 9 females, unnamed lake near Kapustnyi Cape, 15 Aug 1997, col. VT, det. TA. (12) *Nothopsyche* sp. (Limnephilidae): KUNASHIR: 1 larva, Lake Aliger, 44°02' N, 145°44' E, 31 Jul 1994, col. NM and RG, det. TN. (13) *Molannodes tinctus* (Zetterstedt, 1840) (Molannidae): SHUMSHU: 5 males, 5 females, unnamed lake near Yuzhanka River, 10 Aug 1997, col. VT, det. TA; PARAMUSHIR: 6 males, 1 females, unnamed pond near Vasilyeva Cape, 50°02' N, 155°23' E, 3 Aug 1996, col. NM, det. TI. (14) *Ceraclea alboguttata* (Hagen, 1860) (Leptoceridae): KUNASHIR: 1 female, unnamed stream that drains Lake Lagunnoye, 44°03' N; 145°44' E, 1 Sep 1995, col. NM, det. MU. (15) *Triaenodes pellectus* Ulmer, 1908 (Leptoceridae): KUNASHIR: 1 male, unnamed stream adjacent to the hot spring, 44°00' N, 145°41' E, 25 Aug 1996, col. NM and PO, det. MU; 2 females, same locality, 27 Jul 1997, col. NM, det. TA. (16) *Oecetis morii* Tsuda, 1942 (Leptoceridae): KUNASHIR:

1 male, Lake Aliger, 44°03' N, 145°44' E, 26 Aug 1996, col. NM and PO, det. MU.

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